of the current between the electrodes and consequently reducing the amount of electrolysis.

2. (Once amended) An electrochemical cell according to claim 1, wherein the current impeding medium is selected from the group comprising quaternary ammonium compounds including n-alkyl dimethyl benzyl ammonium chloride, didecyl methyl oxyethyl ammonium propionate, pyridine and quinoline, non-ionic compounds including primary, secondary and tertiary amines, and anionic compounds including sodium dioctyl sulpho succinate, the anionic compounds being [provided the latter are] included in the presence of suitable cations.

3. (Once amended) An electrochemical cell according to claim 2, wherein the current impeding medium is n-alkyl dimethyl benzyl ammonium chloride, the alkyl group having n carbon atoms, n being an integer from 12 to 16.

6. (Once amended) A method of reducing water loss in an electrochemical cell of the type having opposed positive and negative electrodes and an electrolyte in ionic contact with the electrodes, and being disposed to cause electrolysis of the electrolyte when a sufficient amount of a potential is applied across the electrodes, the method including the steps of introducing into the cell a current impeding medium that provides through contact with the electrolyte a resistive path in a flow of a current between the electrodes when a potential sufficient to cause electrolysis of the electrolyte is applied across the electrodes, and applying sufficient potential to cause electrolysis of the electrolyte across the electrodes to activate the current impeding medium into providing a resistive path to the flow of a current between the electrodes, thereby reducing electrolysis of the electrolyte.

Please cancel claims 7-9.

Please amend claims 10-14 as follows:

10. (Once amended) A method according to claim 6, wherein the current impeding medium additionally forms an impediment or barrier at the negative electrode to ions being attracted to the negative electrode or gas bubbles evolving from the negative electrode.

11. (Once amended) A method according to claim 10, wherein the ions being attracted to the negative electrode are hydrogen ions and the gas bubbles evolving from the negative electrode are hydrogen bubbles.

12. (Once amended) An electrochemical cell comprising opposed positive and negative electrodes and an aqueous electrolyte in ionic contact with the electrodes, the electrochemical cell being disposed to cause electrolysis of the electrolyte when a sufficient amount of a potential is applied across the electrodes, the electrolysis being caused by a flow of current between the electrodes and being accompanied by a flow of ions to the negative electrode and/or a flow of bubbles from the negative electrode, the electrochemical cell further comprising a current impeding medium that provides through contact with the electrolyte an impediment or barrier over a surface of the negative electrode when a sufficient potential is applied across the electrodes to cause electrolysis of the electrolyte, the impediment or barrier providing at least one of: (a) a reduction in the flow of current between the electrodes; (b) a reduction in the flow of ions to the negative electrode; or (c) a reduction in the flow of gas bubbles from the negative electrode.

13. (Once amended) An electrochemical cell according to claim 12, wherein the current impeding medium traps gas bubbles evolving from the negative electrode to form the impediment or barrier.

14. (Once amended) An electrochemical cell according to claim 13, wherein the current impeding medium includes a head portion that is attracted to the negative electrode and a tail portion extending away from the head portion, the tail portion being arranged to trap the gas bubbles evolving at the negative electrode.

Please add the following claims:

15. An electrochemical cell according to claim 1, wherein the electrochemical cell is a secondary battery cell.

16. An electrochemical cell according to claim 2, wherein the current impeding medium does not negatively affect a discharging cycle of the secondary battery cell.

17. An electrochemical cell according to claim 2, wherein the current impeding medium provides an improved cycling performance of the secondary battery cell.

18. An electrochemical cell according to claim 2, wherein the secondary battery cell has a threshold potential above which the current impeding medium reduces electrolysis of the electrolyte and below which the current impeding medium does not negatively affect the operation of the secondary battery cell.

19. An electrochemical cell according to claim 14, wherein the impediment or barrier is self regulating, the greater the amount of electrolysis, the greater the number of gas bubbles that are trapped and the more effective the impediment or barrier to the flow of ions to the negative electrode, thereby the more electrolysis is reduced, and vice versa.

20. An electrochemical cell according to claim 12, wherein the flow of ions includes metal ions selected from the group comprising lead, antimony, arsenic, tin, iron, zinc,

chromium, copper and silver ions, and other ions of metals conventionally used in lead-acid battery cells and other electrochemical cells.

21. An electrochemical cell according to claim 1, wherein the current impeding medium is soluble and in use is attached to the negative electrode to form the resistive path.